NOAA FISHERIES
NATIONAL MARINE FISHERIES SERVICE

Authorizations and Permits for Protected Species (APPS)

File #:

Applicant Information

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Project Information

File Number:	15486-2R
Application Status:	**Application Complete**
Project Title:	Renew: Species Distribution and Habitat Use in Streams of Select Basins in Oregon and Washington
Project Status:	Renewal
Previous Federal or State Permit:	15486
Permit Requested:	• ESA Section 10(a)(1)(A) permit (Pacific fish/invertebrate research)
Where will activities occur?	Oregon (including Columbia River and offshore waters) Washington (including Columbia River and offshore waters)

State department of fish and game/wildlife: N/A

Research Timeframe: **Start:** 02/08/2016 **End:** 12/31/2020

Sampling Season/Project Duration: March through October annually.

Abstract: West Fork Environmental, Inc. is applying for a permit to capture and handle juvenile, natural Upper Columbia River Chinook and steelhead, Lower Columbia River Chinook and steelhead, Snake River Chinook (spr/sum) and steelhead, Puget Sound Chinook and steelhead, Lower Columbia River coho and Oregon coastal coho salmon during the course of headwater stream surveys within select basins in Washington and Oregon. For specific sampling locations, please see the attached maps. The purpose of the research is to provide owners of industrial forest lands and major state land managers in Washington and Oregon with accurate salmonid distribution maps of their property. The work will benefit salmon and steelhead by helping land managers plan and carry out their activities in ways that will have the smallest effect possible on the listed stocks and their critical habitat. All fish would be captured using backpack electrofishing equipment and held in a dip net underwater until release after positive identification to species. West Fork Environmental researchers do not intend to kill any listed salmonids, but a small number may die as an unintended consequence of our activities. All efforts will be made to sample only in resident trout reaches, but occasionally some sampling could inadvertently occur in an anadromous reach.

Project Description

Purpose: The purpose of our research is to provide industrial forest landowners and the major state lands managers in Washington and Oregon accurate maps of salmonid distribution of their property. For a specific list of proponents of the research, please see the attached table that identifies specific contracts, contract administrators and data for local contacts associated with the work. The information we obtain during these surveys is used by landowners to correctly classify streams during the development of harvest and road maintenance plans. Forest practice rules in Washington and Oregon have been designed to promote functional maintenance and recovery of streams and their riparian forests. These rules vary depending on the presence or absence of fish and the temporal and spatial character of flow. Incorrect classification of streams results in misapplication of rules and leads to improper regulatory protection during harvest or road construction and maintenance. All forest landowners have an obligation to correctly classify streams on their property prior to filing a forest practice application. Survey work covered by this Section 10 application addresses the need for correct stream classification.

Description: The research proposed here relating to fish distribution is directly linked to the obligation of forest landowners to correctly type their streams prior to applying for a permit to conduct forestry related operations. Please see the attached Chapter 13 of the Forest Practices Board Manual for more information on the Washington process. Anticipated sampling would occur across ownerships of numerous forest landowners in the state of Washington and Oregon (see attached maps for specific locations). See the attached table for a list of all contracted landowners in which sampling would occur. The stream segments we anticipate sampling are unlikely to contain listed species. However, due to the fact that some stream segments we will sample are tributary to larger streams that do support listed species, it is imperative that we cover the unlikely case where we may detect a listed species during a survey.

The timeline for proposed work would start in February and March when we will make detailed plans for sampling by identifying the specific stream reaches to be surveyed. In Washington, planning will coincide with coordinated meetings with the Washington State Departments of Fish and Wildlife and Natural Resources, local Indian tribes and forestland owners. In Oregon consultation with Department of Fish and Wildlife biologists will be conducted over the phone or in person at regional offices. During these meetings all local

knowledge on species distribution will be assembled. This knowledge will be used to assist us in avoiding stream segments where listed species are likely to occur.

Field surveys for fish distribution will be conducted from March through September. A physical survey of habitat conditions is conducted at the same time as the electrofishing survey. Channel dimensions are collected at every 100 foot station in surveys that are a minimum of 1,300-2,000 feet long. GPS points are taken during the surveys to document location of key features that may be limiting upstream utilization by fish. For specific field methodology, please see the attached field methodology developed by West Fork Environmental. From August through December data is analyzed and reports are produced. Reports are submitted by landowners to the respective regulating agency in both Washington and Oregon.

Listed species are not a target of the sampling proposed in this permit application. Rather, the request for authorization for a small amount of take is sought for the coincidental capture of an individual of a listed species during the course of our surveys. All efforts will be made to begin our surveys beyond the anadromous reaches in most streams. No anesthetic or other drugs will be administered to an individual of a listed species.

Supplemental Information

Status of Species: We may encounter Chinook, coho or steelhead of several ESUs that are either threatened or endangered. All efforts are being made to design and implement the work so that the likelihood of encountering any listed species is remote.

Methods: Fish will be captured using a single-pass method of electrofishing using a backpack electrofisher and released on site without handling or tagging. We will use a Smith-Root LR24 programmable electrofisher to capture fish. The LR24 represents one of the most programmable electrofisher units and benefits from the ability to manually adjust the settings to minimize the impact of the electrical current on the subject species. We will reduce the risk to fish that are exposed to the electric current by carefully matching machine current output characteristics to water quality parameters (i.e., we will measure specific conductivity prior to establishing initial voltage levels). Voltage can be adjusted in 5 volt increments while the frequency and duty cycles are also adjustable. Our crews regularly adjust these settings to minimize the impact on the subject species encountered. Crews typically operate LR24 units in the range of 400-600 volts, duty cycle of 12%, and a frequency of 30 Hz. All fish will be identified to species while resting in a hand dip net and will not removed from the water. Should we encounter an individual of a listed species we will note its detection and release it immediately on site without handling. We have considered alternative methods as noted below. For more on the specific methodology our two person crews will use, please see the attached field methodology developed by West Fork Environmental. This method comports with both the ODFW Protocol for Surveying Forest Streams for Fish Presence and guidance provided in Chapter 13 of the Washington Forest Practices Board Manual (both are attached to this application).

While there are many alternative ways to capture and detect fish in streams and rivers, electrofishing is particularly effective in the small and relatively steep channels we will be working in. Visual observations are not reliable due to hiding behavior of fish. Snorkeling is ineffective due to the turbulent and shallow character of the habitat in steep step pool and cascade headwater streams. Minnow traps require two visits to the site, are not an efficient means for determining fish distribution and often the snout of captured fish is abraded on wire traps during confinement. Snorkeling, hand seines and other visual observations are more appropriate for larger streams with a distinct pattern of pools and riffles. The steep, step pool and cascade habitat in the streams we will be working in is most reliably and effectively sampled using an electrofisher.

Lethal Take: All listed species will be released alive on site.

Anticipated Effects on Animals: A backpack electrofisher will be used to capture fish. We would characterize our approach as using low-threshold power, below levels that cause galvanonarcosis, thus reducing stress and relying on well-understood galvanotaxis behavior to move fish toward the dip net. By using the electrofisher in this manner it is highly unlikely that any fish will experience electric fields strong enough to cause tetanic muscle contractions that could cause musculoskeletal damage or lethal levels of stress.

Measures to Minimize Effects:	We are taking several measures to reduce the likelihood of harming individuals of a listed species. First we are lowering the likelihood of encountering listed species by not sampling in areas where they are likely to reside. Nearly all of our work is in resident areas but occasionally we need to establish the break between anadromous use areas and the non-fish bearing or resident portion of a stream system. Secondly we are further mitigating the chances for injury to listed species through careful setup and operation of our electrofisher as mentioned above in the methods section. Thirdly, electrode placement and use within the stream will be done to avoid close contact with fish. Operation of electrofishers will conform to guidance supplied by the NOAA Fisheries (http://www.nwr.noaa.gov/ESA-Salmon-Regulations-Permits/4d-Rules/upload/electro2000.pdf). Finally, fish will be identified to species while in a hand dip net and not removed from water. Should we encounter an individual of a listed species we will note its detection and release it immediately on site without handling.
Resources Needed to Accomplish Objectives:	West Fork Environmental is regularly contracted to perform fish distribution surveys and prepare reports for landowners that are submitted to the Washington Department of Natural Resources and the Oregon Department of Fish and Wildlife. These contracts are on a time and materials basis. Field sampling will be done with a Smith-Root LR24 backpack electrofisher and standard physical survey hand tools, such as tape measures and clinometers.
Disposition of Tissues:	No tissue samples will be collected.
Public Availability of Product/Publications:	All data we collect will be available to the public through reports that are submitted to the Washington Department of Natural Resources and the Oregon Department of Fish and Wildlife. These reports contain information not only on fish distribution but also physical stream habitat and receive regular review by the Washington Department of Fish and Wildlife, the Washington Department of Ecology and local Indian tribes in Washington and correlative agencies in Oregon.

Federal Information

No Federal comments or authorizations.

Location/Take Information

Freshwater Location

Research Area: Pacific Ocean **State:** WA **Sub Basin (4th Field HUC):** Cowlitz **Stream Name:** Coweeman River, Ostrander and Salmon Creeks
Sale in Oregon of species taken: None
Location Description: Coweeman River, Ostrander Creek, and Salmon Creek in the lower Cowlitz subbasin.

Take Information

Line	Ver	Species	Listing Unit/Stock	Production /Origin	Life Stage	Sex	Expected Take	Indirect Mort	Take Action	Observe /Collect Method	Procedure	Run	Transport Record	Begin Date	End Date

1		Steelhead	Lower Columbia River (NMFS Threatened)	Natural	Juvenile	Male and Female	10	1	Capture/Handle/Release Fish	Electrofishing, Backpack		Mixed	N/A	2/8/2016	12/31/2020
2		Salmon, Chinook	Lower Columbia River (NMFS Threatened)	Natural	Juvenile	Male and Female	10	1	Capture/Handle/Release Fish	Electrofishing, Backpack		Mixed	N/A	2/8/2016	12/31/2020
3		Salmon, coho	Lower Columbia River (NMFS Threatened)	Natural	Juvenile	Male and Female	10	1	Capture/Handle/Release Fish	Electrofishing, Backpack		N/A	N/A	2/8/2016	12/31/2020

Freshwater Location

Research Area: Pacific Ocean **States:** OR,WA **Sub Basin (4th Field HUC):** Lower Columbia **Stream Name:** Lower Columbia River tributaries
Sale in Oregon of species taken: None
Location Description: Youngs and Klastanine River watersheds in Oregon; Grays River watershed and nearby tributaries to the Columbia in Washington.

Take Information

Line	Ver	Species	Listing Unit/Stock	Production /Origin	Life Stage	Sex	Expected Take	Indirect Mort	Take Action	Observe /Collect Method	Procedure	Run	Transport Record	Begin Date	End Date
1		Salmon, coho	Lower Columbia River (NMFS Threatened)	Natural	Juvenile	Male and Female	20	2	Capture/Handle/Release Fish	Electrofishing, Backpack		Fall	N/A	2/8/2016	12/31/2020
2		Salmon, Chinook	Lower Columbia River (NMFS Threatened)	Natural	Juvenile	Male and Female	10	1	Capture/Handle/Release Fish	Electrofishing, Backpack		Fall	N/A	2/8/2016	12/31/2020
3		Steelhead	Lower Columbia River (NMFS Threatened)	Natural	Juvenile	Male and Female	10	1	Capture/Handle/Release Fish	Electrofishing, Backpack		Mixed	N/A	2/8/2016	12/31/2020

Freshwater Location

Research Area: Pacific Ocean **State:** WA **Sub Basin (4th Field HUC):** Lower Columbia-Clatskanie **Stream Name:** Kalama River, Elochoman Creek, and Mill Creek watersheds
Sale in Oregon of species taken: None
Location Description: Headwater tributaries in the Kalama River, Elochoman Creek, and Mill Creek watersheds, Washington.

Take Information

Line	Ver	Species	Listing Unit/Stock	Production /Origin	Life Stage	Sex	Expected Take	Indirect Mort	Take Action	Observe /Collect Method	Procedure	Run	Transport Record	Begin Date	End Date

1		Salmon, coho	Lower Columbia River (NMFS Threatened)	Natural	Juvenile	Male and Female	20	2	Capture/Handle/Release Fish	Electrofishing, Backpack		Fall	N/A	2/8/2016	12/31/2020
2		Steelhead	Lower Columbia River (NMFS Threatened)	Natural	Juvenile	Male and Female	10	1	Capture/Handle/Release Fish	Electrofishing, Backpack		Mixed	N/A	2/8/2016	12/31/2020
3		Salmon, Chinook	Lower Columbia River (NMFS Threatened)	Natural	Juvenile	Male and Female	10	1	Capture/Handle/Release Fish	Electrofishing, Backpack		Mixed	N/A	2/8/2016	12/31/2020

Freshwater Location

Research Area: Pacific Ocean **State:** WA **Sub Basin (4th Field HUC):** Lower Willamette **Stream Name:** Salmon River watershed
Sale in Oregon of species taken: None
Location Description: Upper Salmon River and tributaries in Clark County, Washington.

Take Information

Line	Ver	Species	Listing Unit/Stock	Production /Origin	Life Stage	Sex	Expected Take	Indirect Mort	Take Action	Observe /Collect Method	Procedure	Run	Transport Record	Begin Date	End Date
1		Salmon, coho	Lower Columbia River (NMFS Threatened)	Natural	Juvenile	Male and Female	20	2	Capture/Handle/Release Fish	Electrofishing, Backpack		Fall	N/A	2/8/2016	12/31/2020
2		Steelhead	Lower Columbia River (NMFS Threatened)	Natural	Juvenile	Male and Female	10	1	Capture/Handle/Release Fish	Electrofishing, Backpack		Mixed	N/A	2/8/2016	12/31/2020
3		Salmon, Chinook	Lower Columbia River (NMFS Threatened)	Natural	Juvenile	Male and Female	10	1	Capture/Handle/Release Fish	Electrofishing, Backpack		Mixed	N/A	2/8/2016	12/31/2020

Freshwater Location

Research Area: Pacific Ocean **State:** OR **Sub Basin (4th Field HUC):** Middle Willamette **Stream Name:** Rickreall Creek watershed
Sale in Oregon of species taken: None
Location Description: Headwater tributary segments in Rickreall Creek

Take Information

Line	Ver	Species	Listing Unit/Stock	Production /Origin	Life Stage	Sex	Expected Take	Indirect Mort	Take Action	Observe /Collect Method	Procedure	Run	Transport Record	Begin Date	End Date

1		Steelhead	Upper Willamette River (NMFS Threatened)	Natural	Juvenile	Male and Female	10	1	Capture/Handle/Release Fish	Electrofishing, Backpack		Winter	N/A	2/8/2016	12/31/2020

Freshwater Location

Research Area: Pacific Ocean **State:** WA **Sub Basin (4th Field HUC):** N/A **Stream Name:** North Puget Sound tributaries
Sale in Oregon of species taken: None
Location Description: Headwater streams in Lower Skagit, Nooksack, Skykomish, Stillaguamish, Strait of Georgia, and Upper Skagit subbasins

Take Information

Line	Ver	Species	Listing Unit/Stock	Production /Origin	Life Stage	Sex	Expected Take	Indirect Mort	Take Action	Observe /Collect Method	Procedure	Run	Transport Record	Begin Date	End Date
1		Salmon, Chinook	Puget Sound (NMFS Threatened)	Natural	Juvenile	Male and Female	14	1	Capture/Handle/Release Fish	Electrofishing, Backpack		Mixed	N/A	2/8/2016	12/31/2020
2		Steelhead	Puget Sound (NMFS Threatened)	Natural	Juvenile	Male and Female	17	1	Capture/Handle/Release Fish	Electrofishing, Backpack		Mixed	N/A	2/8/2016	12/31/2020

Freshwater Location

Research Area: Pacific Ocean **State:** WA **Sub Basin (4th Field HUC):** N/A **Stream Name:** South Puget Sound tributaries
Sale in Oregon of species taken: None
Location Description: Headwater streams in Dumwamish, Nisqually, and Puyallup subbasins.

Take Information

Line	Ver	Species	Listing Unit/Stock	Production /Origin	Life Stage	Sex	Expected Take	Indirect Mort	Take Action	Observe /Collect Method	Procedure	Run	Transport Record	Begin Date	End Date
1		Salmon, Chinook	Puget Sound (NMFS Threatened)	Natural	Juvenile	Male and Female	10	1	Capture/Handle/Release Fish	Electrofishing, Backpack		Mixed	N/A	2/8/2016	12/31/2020
2		Steelhead	Puget Sound (NMFS Threatened)	Natural	Juvenile	Male and Female	10	1	Capture/Handle/Release Fish	Electrofishing, Backpack		Mixed	N/A	2/8/2016	12/31/2020

Freshwater Location

Research Area: Pacific Ocean **State:** OR **Sub Basin (4th Field HUC):** Necanicum **Stream Name:** Necanicum River and tributaries
Sale in Oregon of species taken: None
Location Description: Lower, middle, and upper Necanicum watershed

Take Information

Line	Ver	Species	Listing Unit/Stock	Production /Origin	Life Stage	Sex	Expected Take	Indirect Mort	Take Action	Observe /Collect Method	Procedure	Run	Transport Record	Begin Date	End Date
1		Salmon, coho	Oregon Coast (NMFS Threatened)	Natural	Juvenile	Male and Female	10	1	Capture/Handle/Release Fish	Electrofishing, Backpack		Fall	N/A	2/8/2016	12/31/2020

Freshwater Location

Research Area: Pacific Ocean **State:** OR **Sub Basin (4th Field HUC):** Nehalem **Stream Name:** Tributaries to the North and Middle North forks
Sale in Oregon of species taken: None
Location Description: Headwater tributary segments in the North Fork and Middle North Fork Nehalem River.

Take Information

Line	Ver	Species	Listing Unit/Stock	Production /Origin	Life Stage	Sex	Expected Take	Indirect Mort	Take Action	Observe /Collect Method	Procedure	Run	Transport Record	Begin Date	End Date
1		Salmon, coho	Oregon Coast (NMFS Threatened)	Natural	Juvenile	Male and Female	10	1	Capture/Handle/Release Fish	Electrofishing, Backpack		Fall	N/A	2/8/2016	12/31/2020

Freshwater Location

Research Area: Pacific Ocean **State:** OR **Sub Basin (4th Field HUC):** Siletz-Yaquina **Stream Name:** Small tributaries and coastal creeks
Sale in Oregon of species taken: None
Location Description: Salmon River, minor coastal creeks, and tributaries to the Yaquina and Siletz rivers.

Take Information

Line	Ver	Species	Listing Unit/Stock	Production /Origin	Life Stage	Sex	Expected Take	Indirect Mort	Take Action	Observe /Collect Method	Procedure	Run	Transport Record	Begin Date	End Date
1		Salmon, coho	Oregon Coast (NMFS Threatened)	Natural	Juvenile	Male and Female	10	1	Capture/Handle/Release Fish	Electrofishing, Backpack		Fall	N/A	2/8/2016	12/31/2020

Freshwater Location

Research Area: Pacific Ocean **State:** WA **Sub Basin (4th Field HUC):** Wenatchee **Stream Name:** Nason Creek
Sale in Oregon of species taken: None
Location Description: Nason Creek a tributary to the Wenatchee River

Take Information

Line	Ver	Species	Listing Unit/Stock	Production /Origin	Life Stage	Sex	Expected Take	Indirect Mort	Take Action	Observe /Collect Method	Procedure	Run	Transport Record	Begin Date	End Date
1		Salmon, Chinook	Upper Columbia River spring-run (NMFS Endangered)	Natural	Juvenile	Male and Female	10	1	Capture/Handle/Release Fish	Electrofishing, Backpack		Spring	N/A	2/8/2016	12/31/2020
2		Steelhead	Upper Columbia River (NMFS Threatened)	Natural	Juvenile	Male and Female	10	1	Capture/Handle/Release Fish	Electrofishing, Backpack		Summer	N/A	2/8/2016	12/31/2020

Freshwater Location

Research Area: Pacific Ocean **State:** OR **Sub Basin (4th Field HUC):** Wilson-Trask-Nestucca **Stream Name:** Nestucca River tributaries
Sale in Oregon of species taken: None
Location Description: Tributaries throughout the Nestucca River watershed.

Take Information

Line	Ver	Species	Listing Unit/Stock	Production /Origin	Life Stage	Sex	Expected Take	Indirect Mort	Take Action	Observe /Collect Method	Procedure	Run	Transport Record	Begin Date	End Date
1		Salmon, coho	Oregon Coast (NMFS Threatened)	Natural	Juvenile	Male and Female	10	1	Capture/Handle/Release Fish	Electrofishing, Backpack		Fall	N/A	2/8/2016	12/31/2020

Freshwater Location

Research Area: Pacific Ocean **State:** OR **Sub Basin (4th Field HUC):** Yamhill **Stream Name:** Tributaries to the Yamhill River
Sale in Oregon of species taken: None
Location Description: Headwater tributary segments.

Take Information

Line	Ver	Species	Listing Unit/Stock	Production /Origin	Life Stage	Sex	Expected Take	Indirect Mort	Take Action	Observe /Collect Method	Procedure	Run	Transport Record	Begin Date	End Date
1		Steelhead	Upper Willamette River (NMFS Threatened)	Natural	Juvenile	Male and Female	10	1	Capture/Handle/Release Fish	Electrofishing, Backpack		Winter	N/A	2/8/2016	12/31/2020

Freshwater Location

Research Area: Pacific Ocean **State:** OR **Sub Basin (4th Field HUC):** Clackamas **Stream Name:** Clackamas headwater tributaries
Sale in Oregon of species taken: None
Location Description: Headwater tributary segments to Eagle Creek, Grabenheim Creek, Squaw Creek, Delph creek, and Fall Creek

Take Information

Line	Ver	Species	Listing Unit/Stock	Production /Origin	Life Stage	Sex	Expected Take	Indirect Mort	Take Action	Observe /Collect Method	Procedure	Run	Transport Record	Begin Date	End Date
1		Salmon, Chinook	Lower Columbia River (NMFS Threatened)	Natural	Juvenile	Male and Female	10	1	Capture/Handle/Release Fish	Electrofishing, Backpack		Mixed	N/A	2/8/2016	12/31/2020
2		Salmon, coho	Lower Columbia River (NMFS Threatened)	Natural	Juvenile	Male and Female	10	1	Capture/Handle/Release Fish	Electrofishing, Backpack		N/A	N/A	2/8/2016	12/31/2020
3		Steelhead	Lower Columbia River (NMFS Threatened)	Natural	Juvenile	Male and Female	10	1	Capture/Handle/Release Fish	Electrofishing, Backpack		Mixed	N/A	2/8/2016	12/31/2020

Freshwater Location

Research Area: Pacific Ocean **State:** OR **Sub Basin (4th Field HUC):** Lower Columbia-Sandy **Stream Name:** Lower-Columbia- Sandy headwater tributaries
Sale in Oregon of species taken: None
Location Description: Headwater tributary segments to Wildcat Creek, Boulder Creek, Cheeney Creek, and Still Creek

Take Information

Line	Ver	Species	Listing Unit/Stock	Production /Origin	Life Stage	Sex	Expected Take	Indirect Mort	Take Action	Observe /Collect Method	Procedure	Run	Transport Record	Begin Date	End Date
1		Salmon, Chinook	Lower Columbia River (NMFS Threatened)	Natural	Juvenile	Male and Female	10	1	Capture/Handle/Release Fish	Electrofishing, Backpack		Mixed	N/A	2/8/2016	12/31/2020
2		Salmon, coho	Lower Columbia River (NMFS Threatened)	Natural	Juvenile	Male and Female	10	1	Capture/Handle/Release Fish	Electrofishing, Backpack		N/A	N/A	2/8/2016	12/31/2020
3		Steelhead	Lower Columbia River (NMFS Threatened)	Natural	Juvenile	Male and Female	10	1	Capture/Handle/Release Fish	Electrofishing, Backpack		Mixed	N/A	2/8/2016	12/31/2020

Freshwater Location

Research Area: Pacific Ocean **State:** OR **Sub Basin (4th Field HUC):** Middle Columbia-Hood **Stream Name:** Middle Columbia-Hood headwater tributaries
Sale in Oregon of species taken: None
Location Description: Headwater tributary segments to W Fk Hood River, Tony Creek, Herman Creek, and Neal Creek

Take Information

Line	Ver	Species	Listing Unit/Stock	Production /Origin	Life Stage	Sex	Expected Take	Indirect Mort	Take Action	Observe /Collect Method	Procedure	Run	Transport Record	Begin Date	End Date
1		Salmon, Chinook	Lower Columbia River (NMFS Threatened)	Natural	Juvenile	Male and Female	10	1	Capture/Handle/Release Fish	Electrofishing, Backpack		Mixed	N/A	2/8/2016	12/31/2020
2		Salmon, coho	Lower Columbia River (NMFS Threatened)	Natural	Juvenile	Male and Female	10	1	Capture/Handle/Release Fish	Electrofishing, Backpack		N/A	N/A	2/8/2016	12/31/2020
3		Steelhead	Lower Columbia River (NMFS Threatened)	Natural	Juvenile	Male and Female	10	1	Capture/Handle/Release Fish	Electrofishing, Backpack		Mixed	N/A	2/8/2016	12/31/2020

Freshwater Location

Research Area: Pacific Ocean **State:** OR **Sub Basin (4th Field HUC):** Molalla-Pudding **Stream Name:** Molalla-Pudding headwater tributaries
Sale in Oregon of species taken: None
Location Description: Headwater tributary segments to W Fork Drift Creek, Kirk Creek, Powers Creek, Davis Creek, Horse Creek and the Molalla River

Take Information

Line	Ver	Species	Listing Unit/Stock	Production /Origin	Life Stage	Sex	Expected Take	Indirect Mort	Take Action	Observe /Collect Method	Procedure	Run	Transport Record	Begin Date	End Date
1		Salmon, Chinook	Upper Willamette River (NMFS Threatened)	Natural	Juvenile	Male and Female	10	1	Capture/Handle/Release Fish	Electrofishing, Backpack		N/A	N/A	2/8/2016	12/31/2020
2		Steelhead	Upper Willamette River (NMFS Threatened)	Natural	Juvenile	Male and Female	10	1	Capture/Handle/Release Fish	Electrofishing, Backpack		Winter	N/A	2/8/2016	12/31/2020

Freshwater Location

Research Area: Pacific Ocean **State:** OR **Sub Basin (4th Field HUC):** North Santiam **Stream Name:** North Santiam headwater tributaries
Sale in Oregon of species taken: None
Location Description: Headwater tributary segments to Santiam River, Shellburg Creek, Jeeter Creek, Stout Creek, Milkey Creek, Rock Creek and Mad Creek

Take Information

Line	Ver	Species	Listing Unit/Stock	Production /Origin	Life Stage	Sex	Expected Take	Indirect Mort	Take Action	Observe /Collect Method	Procedure	Run	Transport Record	Begin Date	End Date
1		Salmon, Chinook	Upper Willamette River (NMFS Threatened)	Natural	Juvenile	Male and Female	10	1	Capture/Handle/Release Fish	Electrofishing, Backpack		N/A	N/A	2/8/2016	12/31/2020

2		Steelhead		Natural	Juvenile	Male and Female	10	1	Capture/Handle/Release Fish	Electrofishing, Backpack		N/A	N/A	2/8/2016	12/31/2020

Freshwater Location

Research Area: Pacific Ocean **State:** OR **Sub Basin (4th Field HUC):** South Santiam **Stream Name:** South Santiam headwater tributaries
Sale in Oregon of species taken: None
Location Description: Headwater tributary segments to Thomas Creek, Hall Creek, Hortense Creek, and Crabtree Creek

Take Information

Line	Ver	Species	Listing Unit/Stock	Production /Origin	Life Stage	Sex	Expected Take	Indirect Mort	Take Action	Observe /Collect Method	Procedure	Run	Transport Record	Begin Date	End Date
1		Salmon, Chinook	Upper Willamette River (NMFS Threatened)	Natural	Juvenile	Male and Female	10	1	Capture/Handle/Release Fish	Electrofishing, Backpack		N/A	N/A	2/8/2016	12/31/2020
2		Steelhead	Upper Willamette River (NMFS Threatened)	Natural	Juvenile	Male and Female	10	1	Capture/Handle/Release Fish	Electrofishing, Backpack		Winter	N/A	2/8/2016	12/31/2020

NEPA Checklist

1) If your activities will involve equipment (e.g., scientific instruments) or techniques that are new, untested,or otherwise have unknown or uncertain impacts on the biological or physical environment , please discuss the degree to which they are likely to be adopted by others for similar activities or applied more broadly.

Our activities will involve only technology that has been in common use by the fisheries community for decades and are already broadly adopted.

2) If your activities involve collecting, handling, or transporting potentially infectious agents or pathogens (e.g., biological specimens such as live animals or blood), or using or transporting hazardous substances (e.g., toxic chemicals), provide a description of the protocols you will use to ensure public health and human safety are not adversely affected, such as by spread of zoonotic diseases or contamination of food or water supplies.

Our activities will not utilize or transport hazardous substances or infectious agents. Our activities will not pose a threat to food or water supplies and will not jeopardize public health.

3) Describe the physical characteristics of your project location, including whether you will be working in or near unique geographic areas such as state or National Marine Sanctuaries, Marine Protected Areas, Parks or Wilderness Areas, Wildlife Refuges, Wild and Scenic Rivers, designated Critical Habitat for endangered or threatened species, Essential Fish Habitat, etc. Discuss how your activities could impact the physical environment, such as by direct alteration of substrate during use of bottom trawls, setting nets, anchoring vessels or buoys, erecting blinds or other structures, or ingress and egress of researchers, and measures you will take to minimize these impacts.

Our activities will take place on private and public forestlands that are under active management for commodity timber production. These locations are all served by existing forest road infrastructure and are not pristine. No off-road vehicles will be used to get to our sample locations. We will conduct one-time surveys which will require walking to the beginning location, traversing the channel to the end of survey location and walking out. Activities will take place during the summer months, no permanent structures or instrumentation will be installed to collect our data and no physical damage will be done by the one-time traverse. Our activities may require us to pass through designated Critical Habitat of T&E fish species and Essential Fish Habitat

but only foot disturbance from a two-person crew will occur to the environment. Care will be taken during the survey not to break through wood steps or otherwise significantly disturb stream substrate. Precautions for protecting fish are explained above.

4) Briefly describe important scientific, cultural, or historic resources (e.g., archeological resources, animals used for subsistence, sites listed in or eligible for listing in the National Register of Historic Places) in your project area and discuss measures you will take to ensure your work does not cause loss or destruction of such resources. If your activity will target marine mammals in Alaska or Washington, discuss measures you will take to ensure your project does not adversely affect the availability (e.g., distribution, abundance) or suitability (e.g., food safety) of these animals for subsistence uses.

Our activities will not target and will not interfere with marine mammals. We are unaware of any archaeological resources or sites listed or eligible for listing in the National Register of Historic Places in areas where we will be contracting work. We will be working in active stream channels which are by definition naturally disturbed environments.

Forest Practices that may be associated with our work or in the vicinity of our work are subject to review for archeological and historic resources. These reviews are conducted in advance of our work.

5) Discuss whether your project involves activities known or suspected of introducing or spreading invasive species, intentionally or not, (e.g., transporting animals or tissues, discharging ballast water, use of equipment at multiple sites). Describe measures you would take to prevent the possible introduction or spread of non-indigenous or invasive species, including plants, animals, microbes, or other biological agents.

We will be using personal rain and wading gear at multiple sites. Prior to moving between watersheds we will chemically or cryogenically treat all personal field and sampling equipment to remove the potential for spreading invasive species. We inspect our field equipment for any known invasive species presence prior to entry into an area for field work.

Project Contacts

Primary Contact: N. Phil Peterson

Principal Investigator: N. Phil Peterson

Other Personnel:

Name	Role(s)
Erek Arnold	Co-Investigator
Heidy Barnett	Co-Investigator
Brandon Johansen	Co-Investigator
Kyle B. Meier	Co-Investigator

Attachments

Certification of Identity - P19498T1115486-2R authentication.pdf (Added Mar 9, 2015)

Contact - Brandon Johansen C18491T5Resume_Johansen 2015.pdf (Added Mar 5, 2015)

Contact - Erek Arnold C18489T5Resume_Arnold 2015.pdf (Added Mar 5, 2015)

Contact - Heidy Barnett C18490T5Resume_Barnett 2015.pdf (Added Mar 5, 2015)

Contact - Kyle B. Meier C14001T5Meier 2010.pdf (Added Nov 16, 2010)

Contact - Kyle B. Meier C14001T5Resume_Meier 2015.pdf (Added Mar 5, 2015)

Contact - N. Phil Peterson C13295T5Resume_Peterson 2015.pdf (Added Mar 5, 2015)

Project Description - P19498T12015 Stream Sampling Contracts Held by WFE.pdf (Added Mar 5, 2015)

Project Description - P19498T1FishPresenceSurveyProtocol-ODF.pdf (Added Mar 5, 2015)

Project Description - P19498T1WFE Stream Survey Protocol 2015.pdf (Added Mar 5, 2015)

Project Description - P19498T1WFE Survey Work Orders 2015 OR.pdf (Added Mar 5, 2015)

Project Description - P19498T1WFE Survey Work Orders 2015 WA.pdf (Added Mar 5, 2015)

References - P19498T12FP_Board_Manual_Sec13.pdf (Added Mar 5, 2015)

Resources Needed - P19498T15Personal Qualifications and Crew Training.pdf (Added Mar 5, 2015)

Status

Application Status: Application Complete
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- **ESA Section 10(a)(1)(A) permit (Pacific fish/invertebrate research)**
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Reports